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Attorney Docket No. 15966-575B (Cura-75B)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Prayaga et al.

SERIAL NUMBER: 09/679,740 EXAMINER: Not Yet Assigned

FILING DATE: October 5, 2000 ART UNIT: 1645

FOR: Endozepine-Like Polypeptides and Polynucleotides Encoding Same

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

In response to the notice to comply with requirements for patent applications containing nucleotide sequence and/or amino acid sequence disclosures, mailed February 14, 2002, in the above-identified application, Applicants submit a substitute paper copy, and a computer readable form of the Sequence Listing. Also enclosed are a Statement in Support of Computer Readable Form Submission, a Supplemental Preliminary Amendment and a copy of the Notice to Comply. Applicants also enclose a copy of a Petition Under 37 C.F.R. § 1.181 to Withdraw Holding of Abandonment that is being filed simultaneously with this Response.

Please charge any fees that may be due, or credit any overpayment to Deposit Account No. 50-0311, Reference No. 15966-575B.

Respectfully submitted,

Date of Deposit: July 22, 2004

Christine K Stock, Reg. No. 45,899

Ivor R. Elrifi, Reg. No. 39,529
Attorney for Applicants
c/o MINTZ, LEVIN
Tel: (617) 542-6000
Fax: (617) 542-2241
Customer No.: 30623

SEQUENCE LISTING

<110> Prayaga, Sudhirdas K
Shimkets, Richard A
Majumder, Kumud
Eisen, Andrew
Vernet, Corine
Spaderna, Steven K

<120> ENDOZEPINE-LIKE POLYPEPTIDES AND POLYNUCLEOTIDES ENCODING SAME

<130> 15966-575B

<140> 09/679,740
<141> 2000-10-05

<150> 60/157,786
<151> 1999-10-05

<150> 60/164,164
<151> 1999-11-09

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<150> 60/219,490
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cccgtgagcg atcaggagaa gctgctggtc tacggcttgt acaaacaggc cacccagggc 180
gactgcgaca tccccggccc tccggcctca gacgtgagag ccagggccaa gtgggaggct 240
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20 25 30

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35 40 45

Leu Val Tyr Gly Leu Tyr Lys Gln Ala Thr Gln Gly Asp Cys Asp Ile
50 55 60

Pro Gly Pro Pro Ala Ser Asp Val Arg Ala Arg Ala Lys Trp Glu Ala
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Trp Ser Ala Asn Lys Gly Ala Ser Lys Met Asp Ala Met Arg Gly Tyr
85 90 95

Ala Ala Lys Val Glu Glu Leu Thr Lys Lys Glu
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gatgatgaag aactgaaaga actttatggg ctttacaaac aagctgtaat tggaaacatt 180
aatattgagt gttcagaaat gctagaatta aaaggcaagg ccaaatggga agcacagaac 240
ccccaaaaag gattgtcaga ggaagatatg atgcgtgcct ttatttctaa agccgaagag 300

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Tyr Lys Gln Ala Val Ile Gly Asn Ile Asn Ile Glu Cys Ser Glu Met
35 40 45

Leu Glu Leu Lys Gly Lys Ala Lys Trp Glu Ala Gln Asn Pro Gln Lys
50 55 60

Gly Leu Ser Glu Glu Asp Met Met Arg Ala Phe Ile Ser Lys Ala Glu
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Glu Leu Ile Glu Lys Tyr Gly Ile
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caacataaag acagaacggc cagggatggt ggacttcaag ggcaaagcca agtgggatcc 360
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aaaagtagaa gagttaaaga aaaaattcag aatacgagag actggaattg ttgccagcca 480
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gatggaaaga atcagctaac ccatc 565

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Trp His Ala Ala Val Ile Thr Ala Ala Arg Glu Ala Glu Ala Glu Asn
20 25 30

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         35                  40                  45

Lys His Phe Lys Thr Lys Pro Ala Asp Asp Glu Met Arg Phe Leu Tyr
     50                  55                  60

Gly His Tyr Lys Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro
 65                  70                  75                  80

Gly Met Val Asp Phe Lys Gly Lys Ala Lys Trp Asp Pro Trp Asn Leu
                 85                  90                  95

Val Lys Gly Ala Ala Arg Glu Asp Pro Met Lys Ala Lys Ala Tyr Val
            100                 105                 110

Lys Lys Val Glu Glu Leu Lys Lys Lys Phe Arg Ile Arg Glu Thr Gly
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ctatgggctt tacaaacaag caatagttgg agacattaat attgcgtgtc caggaatgct 180
agatttaaaa ggcaaagcca aatgggaagc atggaacctc aaaaaagggt tgtcgacgga 240
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<212> PRT
<213> Homo sapiens

<400> 8

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Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln Ala Ile Val Gly Asp
         35                  40                  45

Ile Asn Ile Ala Cys Pro Gly Met Leu Asp Leu Lys Gly Lys Ala Lys
     50                  55                  60

Trp Glu Ala Trp Asn Leu Lys Lys Gly Leu Ser Thr Glu Asp Ala Thr
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<213> Homo sapiens

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attggagaca ttaatattga gtatctggga atgctggact ttaagggcaa ggccaaatgc 180
gcagcatgga ccctccaaaa aaggttgtca aaggaagatg caacgagtgt ctctatttct 240
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<210> 10
<211> 86
<212> PRT
<213> Homo sapiens

<400> 10
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Leu Pro Thr Arg Pro Ala Asp Asn Lys Glu Leu Lys Lys Leu Asp Gly
             20                  25                  30

Leu Tyr Lys Gln Ala Ile Ile Gly Asp Ile Asn Ile Glu Tyr Leu Gly
         35                  40                  45

Met Leu Asp Phe Lys Gly Lys Ala Lys Cys Ala Ala Trp Thr Leu Gln
     50                  55                  60

Lys Arg Leu Ser Lys Glu Asp Ala Thr Ser Val Ser Ile Ser Lys Ala
 65                  70                  75                  80

Lys Glu Pro Ile Glu Lys
                85
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<210> 11
<211> 267
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<213> Homo sapiens

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cagggcgact gcgacatccc cggccctccg gcctcagacg tgagagccag ggccaagtgg 180
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<213> Homo sapiens

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20 25 30

Tyr Gly Leu Tyr Lys Gln Ala Thr Gln Gly Asp Cys Asp Ile Pro Gly
35 40 45

Pro Pro Ala Ser Asp Val Arg Ala Arg Ala Lys Trp Glu Ala Trp Ser
50 55 60

Ala Asn Lys Gly Ala Ser Lys Met Asp Ala Met Arg Gly Tyr Ala Ala
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Lys Val Glu Glu Leu Thr Lys Lys Glu
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<211> 481
<212> DNA
<213> Homo sapiens

<400> 13
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<210> 15
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<212> PRT
<213> Homo sapiens

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Val Arg Ala Arg
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<210> 16
<211> 20
<212> PRT
<213> Homo sapiens

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Leu Lys Gly Lys
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<210> 17
<211> 20
<212> PRT
<213> Homo sapiens

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1 5 10 15

Phe Lys Gly Lys
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<210> 18
<211> 18
<212> PRT
<213> Homo sapiens

<400> 18
Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro Gly Met Val Asp
1 5 10 15

Phe Lys

<210> 19
<211> 20
<212> PRT
<213> Homo sapiens

<400> 19
Gln Ala Ile Val Gly Asp Ile Asn Ile Ala Cys Pro Gly Met Leu Asp
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Leu Lys Gly Lys
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<210> 20
<211> 18
<212> PRT
<213> Homo sapiens

<400> 20
Gln Ala Ile Val Gly Asp Ile Asn Ile Ala Cys Pro Gly Met Leu Asp
1 5 10 15

Leu Lys

<210> 21
<211> 20
<212> PRT
<213> Homo sapiens

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Phe Lys Gly Lys
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Glu Met Ala Asp Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala Ala
         35                  40                  45

Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln Pro Thr
     50                  55                  60

Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala Thr Glu
 65                  70                  75                  80

Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp Pro Ile Gly Arg
                 85                  90                  95

Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys Glu Glu
            100                 105                 110

Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Ile Glu Thr Met
        115                 120                 125

Pro Met Thr Glu Lys Val Glu Glu Leu Leu Arg Val Ile Gly Pro Phe
    130                 135                 140

Tyr Glu Ile Val Glu Asp Lys Lys Ser Gly Arg Ser Ser Asp Ile Thr
145                 150                 155                 160

Ser Val Arg Leu Glu Lys Ile Ser Lys Cys Leu Glu Asp Leu Gly Asn
                165                 170                 175

Val Leu Thr Ser Thr Pro Asn Ala Lys Thr Val Asn Gly Lys Ala Glu
            180                 185                 190

Ser Ser Asp Ser Gly Ala Glu Ser Glu Glu Glu Glu Ala Gln Glu Glu
        195                 200                 205
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Val Lys Gly Ala Glu His Ser Asp Asn Asp Lys Lys Met Met Lys Lys
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Lys Asp Gly Phe Val Gln Asp Ile Gln Asn Asp Ile His Ala Ser Ser
                245                 250                 255

Ser Leu Asn Gly Arg Ser Thr Glu Glu Val Lys Pro Ile Asp Glu Asn
            260                 265                 270

Leu Gly Gln Thr Gly Lys Ser Ala Val Cys Ile His Gln Gly Ile Asn
        275                 280                 285

Asp Asp His Val Glu Asp Val Thr Gly Ile Gln His Leu Thr Ser Asp
    290                 295                 300

Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu Gln Phe Gly Gln Glu
305                 310                 315                 320

Glu Ser Leu Asp Ser Phe Thr Ser Asn Asn Gly Pro Phe Gln Tyr Tyr
                325                 330                 335

Leu Gly Gly His Ser Ser Gln Pro Met Glu Asn Ser Gly Phe Arg Glu
            340                 345                 350

Asp Ile Gln Val Pro Pro Gly Asn Gly Asn Ile Gly Asn Met Gln Val
        355                 360                 365

Val Ala Val Glu Gly Lys Gly Glu Val Lys His Gly Gly Glu Asp Gly
    370                 375                 380

Arg Asn Asn Ser Gly Ala Pro His Arg Glu Lys Arg Gly Gly Glu Thr
385                 390                 395                 400

Asp Glu Phe Ser Asn Val Arg Arg Gly Arg Gly His Arg Met Gln His
                405                 410                 415

Leu Ser Glu Gly Thr Lys Gly Arg Gln Val Gly Ser Gly Gly Asp Gly
            420                 425                 430

Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu Gln
        435                 440                 445

Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val Leu
    450                 455                 460

Gln Arg Leu Gln Lys Leu Glu Thr Leu Thr Ala Ala Lys Ser Ser Thr
465                 470                 475                 480

Ser Thr Leu Gln Thr Ala Pro Gln Pro Thr Ser Ser Gln Arg Pro Ser
                485                 490                 495

Trp Trp Pro Phe Glu Met Ser Pro Gly Val Leu Thr Phe Ala Ile Ile
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Arg Arg
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<212> PRT
<213> Homo sapiens

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  1               5                  10                  15

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<212> DNA
<213> Homo sapiens

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<213> Homo sapiens

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Thr Lys Pro Ala Asp Asp Glu Arg Met Phe Ile Tyr Ser Arg Cys Lys
             20                  25                  30

Gln Ala Thr Val His Asp Leu Asn Thr Glu Trp Pro Arg Met Leu Asp
         35                  40                  45

Leu Lys Gly Lys Ala Lys Gln Asp Ala Trp Asn Glu Leu Lys Asp Thr
     50                  55                  60

Ala Lys Glu Asp Ala Val Lys Ala Asp Ile Asn Lys Val Glu Glu Arg
 65                  70                  75                  80

Asn Lys Lys Tyr Arg Ile
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<210> 27
<211> 20
<212> PRT
<213> Homo sapiens

<400> 27
Gln Ala Thr Val His Asp Leu Asn Thr Glu Trp Pro Arg Met Leu Asp
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Leu Lys Gly Lys
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<210> 28
<211> 315
<212> DNA
<213> Homo sapiens

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20 25 30

Leu Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His
35 40 45

Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met
50 55 60

Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys
65 70 75 80

Gly Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu
85 90 95

Glu Leu Lys Lys Lys Tyr Gly Ile
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Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp
1 5 10 15

Phe Thr Gly Lys
20

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<212> DNA
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gcaacagaga tgcttatttt tggaaagaag ttaacagcgg gagaggcatg tgctcaagga 840
cttgttactg aagttttccc tgatagcact tttcagaaag aagtctggac caggctgaag 900
gcatttgcaa agcttccccc aaatgccttg agaatttcaa aagaggtaat caggaaaaga 960
gagagagaaa aactacacgc tgttaatgct gaagaatgca atgtccttca gggaagatgg 1020
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<211> 359
<212> PRT
<213> Homo sapiens

<400> 32
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20 25 30

Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly
35 40 45

Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp Ala Trp Asn Ala Leu
50 55 60

Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn Tyr Val Asp Leu Val

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 65                  70                  75                  80

Ser Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser Gln Val Glu Pro Gly
                85                  90                  95

Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu Val Val Thr Ser Glu
            100                 105                 110

Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro Lys Lys Lys Asn Ala
        115                 120                 125

Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg Ala Leu Lys Ala Ala
    130                 135                 140

Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr Gly Asn Gly Asp Tyr
145                 150                 155                 160

Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr Asp Ile Pro Pro Gly
                165                 170                 175

Gly Val Glu Glu Lys Ala Lys Asn Asn Ala Val Leu Leu Arg Glu Phe
            180                 185                 190

Val Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu Ile Ala Val Val Asn
        195                 200                 205

Gly Pro Ala Val Gly Ile Ser Val Thr Leu Leu Gly Leu Phe Asp Ala
    210                 215                 220

Val Tyr Ala Ser Asp Arg Ala Thr Phe His Thr Pro Phe Ser His Leu
225                 230                 235                 240

Gly Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr Phe Pro Lys Ile Met
                245                 250                 255

Ser Pro Ala Lys Ala Thr Glu Met Leu Ile Phe Gly Lys Lys Leu Thr
            260                 265                 270

Ala Gly Glu Ala Cys Ala Gln Gly Leu Val Thr Glu Val Phe Pro Asp
        275                 280                 285

Ser Thr Phe Gln Lys Glu Val Trp Thr Arg Leu Lys Ala Phe Ala Lys
    290                 295                 300

Leu Pro Pro Asn Ala Leu Arg Ile Ser Lys Glu Val Ile Arg Lys Arg
305                 310                 315                 320

Glu Arg Glu Lys Leu His Ala Val Asn Ala Glu Glu Cys Asn Val Leu
                325                 330                 335

Gln Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn Ala Val Val Asn Phe
            340                 345                 350

Leu Ser Arg Lys Ser Lys Leu
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<210> 33
<211> 20
<212> PRT
<213> Homo sapiens

<400> 33
Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly Val Phe Asp
1 5 10 15

Leu Ile Asn Lys
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<210> 34
<211> 1574
<212> DNA
<213> Homo sapiens

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ganaggacgt ccagcgtacg tcngcccgcg cttccccgcc ggcgcagagc aggcctcaca 180
gaatcgcacg ccgctggcac gcacgccgcc ccgcccccac ggcccagcgc cagcgcgccc 240
cgcgtcgcac gcatcccggc ctcactgccc ctcgactcct gttccgttgg aggggcctga 300
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gggtcacgtg agggagcgcg ccgcgactga gcttgggtcc gactggagct caggctcgcg 480
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cggacacaga gggacggagc gagcaaggag acatggcttc atcattcctg cccgcggggg 600
ccatcaccgg cgacagcggt ggagagctga gctcagggga cgactccggg gaggtggagt 660
tcccccatag ccctgagatc gaggagacca gttgcctggc cgagctgttt gagaaggctg 720
ccgcgcacct gcaaggcctg attcaggtgg ccagcaggga gcagctcttg tacctgtatg 780
ccaggtacaa acaggtcaaa gttggaaatt gtaatactcc taaaccaagc ttctttgatt 840
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caatgcagga atatatcgca gtagttaaaa aactagatcc aggttggaat cctcagatac 960
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acattgacca tataaccaaa gccatcaaat cgaaaaatgt ggatgtgaat gtgaaagatg 1140
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tgttgctgca acatagagct gacattaact gtcaggacaa tgaaggccaa acagctctac 1260
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tttctttggt gctgcagcgg cacacaactg gcaaggctta atcaaaagac tggaaaactg 1440
cagtctgtaa tagcataagg cttccattat gaaagaaaac tacaaaaata atacttcttt 1500
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<210> 35
<211> 282
<212> PRT
<213> Homo sapiens

<400> 35

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Gly Glu Leu Ser Ser Gly Asp Asp Ser Gly Glu Val Glu Phe Pro His
             20                  25                  30

Ser Pro Glu Ile Glu Glu Thr Ser Cys Leu Ala Glu Leu Phe Glu Lys
         35                  40                  45

Ala Ala Ala His Leu Gln Gly Leu Ile Gln Val Ala Ser Arg Glu Gln
     50                  55                  60

Leu Leu Tyr Leu Tyr Ala Arg Tyr Lys Gln Val Lys Val Gly Asn Cys
 65                  70                  75                  80

Asn Thr Pro Lys Pro Ser Phe Phe Asp Phe Glu Gly Lys Gln Lys Trp
                 85                  90                  95

Glu Ala Trp Lys Ala Leu Gly Asp Ser Ser Pro Ser Gln Ala Met Gln
            100                 105                 110

Glu Tyr Ile Ala Val Val Lys Lys Leu Asp Pro Gly Trp Asn Pro Gln
        115                 120                 125

Ile Pro Glu Lys Lys Gly Lys Glu Ala Asn Thr Gly Phe Gly Gly Pro
    130                 135                 140

Val Ile Ser Ser Leu Tyr His Glu Glu Thr Ile Arg Glu Glu Asp Lys
145                 150                 155                 160

Asn Ile Phe Asp Tyr Cys Arg Glu Asn Asn Ile Asp His Ile Thr Lys
                165                 170                 175

Ala Ile Lys Ser Lys Asn Val Asp Val Asn Val Lys Asp Glu Glu Gly
            180                 185                 190

Arg Ala Leu Leu His Trp Ala Cys Asp Arg Gly His Lys Glu Leu Val
        195                 200                 205

Thr Val Leu Leu Gln His Arg Ala Asp Ile Asn Cys Gln Asp Asn Glu
    210                 215                 220

Gly Gln Thr Ala Leu His Tyr Ala Ser Ala Cys Glu Phe Leu Asp Ile
225                 230                 235                 240

Val Glu Leu Leu Leu Gln Ser Gly Ala Asp Pro Thr Leu Arg Asp Gln
                245                 250                 255

Asp Gly Cys Leu Pro Glu Glu Val Thr Gly Cys Lys Thr Val Ser Leu
            260                 265                 270

Val Leu Gln Arg His Thr Thr Gly Lys Ala
        275                 280
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<210> 36
<211> 20
<212> PRT
<213> Homo sapiens

<400> 36
Gln Val Lys Val Gly Asn Cys Asn Thr Pro Lys Pro Ser Phe Phe Asp
1 5 10 15

Phe Glu Gly Lys
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<210> 37
<211> 20
<212> PRT
<213> Homo sapiens

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<220>
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<222> (11)
<223> wherein Xaa is Lys or Arg

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<222> (17)
<223> wherein Xaa is Leu or Phe

<220>
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<222> (20)
<223> wherein Xaa is Lys or Arg

<400> 37
Gln Ala Thr Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Pro Gly Met Leu Asp
1 5 10 15

Xaa Lys Gly Xaa
20

<210> 38
<211> 20
<212> PRT
<213> Homo sapiens

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<223> wherein Xaa is Tyr, Trp, Lys or Arg

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<223> wherein Xaa is Gly or Arg

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<400> 38
Gln Ala Thr Xaa Gly Xaa Xaa Xaa Xaa Xaa Xaa Pro Xaa Xaa Xaa Asp
  1   5   10   15

Xaa Xaa Gly Xaa
            20

<210> 39
<211> 20
<212> PRT
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<222> (8)
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<223> wherein Xaa is Ala, Ile, Thr, Val, Phe, Leu or Met

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<223> wherein Xaa is Ala, Ile, Thr, Val, Phe, Leu or Met

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or Met

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<223> wherein Xaa is Pro, Ala, Ile, Thr, Val, Phe, Leu
or Met

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1 5 10 15

Xaa Ile Xaa Xaa
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<210> 40
<211> 20
<212> PRT
<213> Homo sapiens

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<222> (18)
<223> wherein Xaa is Thr, Lys or Glu

<400> 40
Gln Ala Xaa Xaa Gly Asn Ile Asn Xaa Glu Xaa Pro Xaa Met Leu Xaa
1 5 10 15

Phe Xaa Gly Lys
20

<210> 41
<211> 20
<212> PRT
<213> Homo sapiens

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<400> 41
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Xaa Xaa Gly Lys
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<210> 42
<211> 20

<212> PRT
<213> Homo sapiens

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<400> 42
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1 5 10 15

Xaa Xaa Gly Xaa
20

<210> 43
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<212> PRT
<213> Homo sapiens

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<223> wherein Xaa is Gly or Ala

<220>
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<223> wherein Xaa is Lys or Arg

<400> 43
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1 5 10 15

Xaa Xaa Xaa Xaa
20

<210> 44
<211> 20
<212> PRT
<213> Homo sapiens

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<220>
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<223> wherein Xaa is Lys, Ile or Glu

<400> 44
Gln Ala Xaa Xaa Gly Xaa Xaa Asn Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp
1 5 10 15

Xaa Xaa Gly Lys
20

<210> 45
<211> 20
<212> PRT
<213> Homo sapiens

<220>
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<220>
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<223> wherein Xaa is any amino acid

<400> 45
Gln Xaa Xaa Val Gly Xaa Xaa Asn Thr Xaa Xaa Pro Xaa Xaa Xaa Asp
1 5 10 15

Phe Xaa Gly Lys
20

<210> 46
<211> 687
<212> DNA
<213> Homo sapiens

<400> 46
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ccgcccacag cctccgccgc gcacgcgcag tcctcacgaa cgagcgcgcc aagcgcacag 120
cgccgccttc cggcagagcc ctcccaccag ccctcagcac cagggaccgc ctccaccacc 180
ccatgtgcca agtggagttc gagctgcgcg gccctcaagc agctgaaggg tcccgtgagc 240
gatcaggaga agctgctggt ctacggcttg tacaaacagg ccacccaggg cgactgcgac 300
atccccggcc ctccggcctc agacgtgaga gccagggcca agtgggaggc ttggagcgcg 360
aacaaagggg cgtccaagat ggacgccatg aggggctacg cggccaaagt ggaggagctg 420
acgaagaagg aagtgggggg cgtggagcgc gaacaaaggg gcgtgcaaga tggacgccat 480
gaggggctac gcggccaaag tggaggagct gacgaagaag gaagggcgtc caagatggac 540
gccatgaggg gctacgcggc caaagtggag gagctgacga agaaggaagt ggggggcgtg 600
gagcgcgaac aaaggggcgt ccaagatgga cgccatgagg ggctacgcgg ccagagtgag 660
gagatgagga agaaggaggc tggctga 687

<210> 47
<211> 228
<212> PRT
<213> Homo sapiens

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Met Gly Asp Ala Gly Ala Thr Ala Ala Ala Leu Arg Pro Ala His Asn
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Leu Arg Pro Ala Pro Pro Thr Ala Ser Ala Ala His Ala Gln Ser Ser
20 25 30

Arg Thr Ser Ala Pro Ser Ala Gln Arg Arg Leu Pro Ala Glu Pro Ser
35 40 45

His Gln Pro Ser Ala Pro Gly Thr Ala Ser Thr Thr Pro Cys Ala Lys
50 55 60

Trp Ser Ser Ser Cys Ala Ala Leu Lys Gln Leu Lys Gly Pro Val Ser
65 70 75 80

Asp Gln Glu Lys Leu Leu Val Tyr Gly Leu Tyr Lys Gln Ala Thr Gln
85 90 95

Gly Asp Cys Asp Ile Pro Gly Pro Pro Ala Ser Asp Val Arg Ala Arg
100 105 110

Ala Lys Trp Glu Ala Trp Ser Ala Asn Lys Gly Ala Ser Lys Met Asp
115 120 125

Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu Thr Lys Lys Glu
130 135 140

Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln Asp Gly Arg His
145 150 155 160

Glu Gly Leu Arg Gly Gln Ser Gly Gly Ala Asp Glu Glu Gly Arg Ala
165 170 175

Ser Lys Met Asp Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu
180 185 190

Thr Lys Lys Glu Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln
195 200 205

Asp Gly Arg His Glu Gly Leu Arg Gly Gln Ser Glu Glu Met Arg Lys
210 215 220

Lys Glu Ala Gly
225

<210> 48
<211> 576
<212> DNA
<213> Homo sapiens

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gccttccggc agagccctcc caccagccct cagcttctag caccagggac cgcctccacc 180
accccatgtg ccaagtggag ttcgagctgc gcggccctca agcagctgaa gggtcccgtg 240
agcgatcagg agaagctgct ggtctacggc ttgtacaaac aggccaccca gggcgactgc 300
gacatccccg gccctccggc ctcagacgtg agagccaggg ccaagtggga ggcttggagc 360
gcgaaaaaag gggcgtccaa gatggacgcc atgaggggct acgcggccaa agtggaggag 420
ctgacgaaga aggaagtggg gggcgtggag cgcgaacaaa ggggcgtgca agatggacgc 480
catgaggggc tacgcggcca aagtggagga gctgacgaag aaggaagtgg ggggcgtgga 540
gcgcgaacaa aggggcgtcc aagatggacg ccatga 576

<210> 49
<211> 191
<212> PRT
<213> Homo sapiens

<400> 49
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Leu Arg Pro Ala Pro Pro Thr Ala Ser Ala Ala His Ala Ser Pro His
            20   25   30

Glu Arg Ala Arg Gln Ala Ser Arg Ala Phe Arg Gln Ser Pro Pro Thr
        35   40   45

Ser Pro Gln Leu Leu Ala Pro Gly Thr Ala Ser Thr Thr Pro Cys Ala
    50   55   60

Lys Trp Ser Ser Ser Cys Ala Ala Leu Lys Gln Leu Lys Gly Pro Val
65   70   75   80

Ser Asp Gln Glu Lys Leu Leu Val Tyr Gly Leu Tyr Lys Gln Ala Thr
                85   90   95

Gln Gly Asp Cys Asp Ile Pro Gly Pro Pro Ala Ser Asp Val Arg Ala
            100   105   110

Arg Ala Lys Trp Glu Ala Trp Ser Ala Lys Lys Gly Ala Ser Lys Met
        115   120   125

Asp Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu Thr Lys Lys
    130   135   140

Glu Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln Asp Gly Arg
145   150   155   160

His Glu Gly Leu Arg Gly Gln Ser Gly Gly Ala Asp Glu Glu Gly Ser
                165   170   175

Gly Gly Arg Gly Ala Arg Thr Lys Gly Arg Pro Arg Trp Thr Pro
            180   185   190

<210> 50

<211> 294
<212> DNA
<213> Homo sapiens

<400> 50
gctgcggcca ccatgtccct gcaggctgat tttgacatgg tcacagaaga tgtgaggaag 60
ctgaaaacaa gaccagatga tgaagaactg aaagaacttt atgggcttta caaacaagct 120
gtaattggaa acattaatat tgagtgttca gaaatgctag aattaaaagg caaggccaaa 180
tgggaagcac agaaccccca aaaaggattg tcagaggaag atatgatgcg tgcctttatt 240
tctaaagccg aagagctgat agaaaaatat ggaatttaga ataaagcata tgat 294

<210> 51
<211> 293
<212> DNA
<213> Homo sapiens

<400> 51
gctgaatcaa ccatgtcacc ccaggcagat tttgacaaag cagcagggga tgtaaagaaa 60
ttgaaaacaa aaccaactga cgatgaactg aaggaactgt acggactcta caagcagtcc 120
actgttgggg acataaatat agagtgtcct ggcatgctag atctgaaggg caaggccaag 180
tgggacgcat ggaacctaaa gaaaggcttg tctaaggaag atgcgatgag cgcttatgtt 240
tctaaagccc atgagctgat agaaaaatat ggcctgtaac aaggtcgcat gat 293

<210> 52
<211> 85
<212> PRT
<213> Homo sapiens

<400> 52
Gln Ala Asp Phe Asp Met Val Thr Glu Asp Val Arg Lys Leu Lys Thr
1 5 10 15

Arg Pro Asp Asp Glu Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln
20 25 30

Ala Val Ile Gly Asn Ile Asn Ile Glu Cys Ser Glu Met Leu Glu Leu
35 40 45

Lys Gly Lys Ala Lys Trp Glu Ala Gln Asn Pro Gln Lys Gly Leu Ser
50 55 60

Glu Glu Asp Met Met Arg Ala Phe Ile Ser Lys Ala Glu Glu Leu Ile
65 70 75 80

Glu Lys Tyr Gly Ile
85

<210> 53
<211> 85
<212> PRT
<213> Homo sapiens

<400> 53
Gln Ala Asp Phe Asp Glu Ala Ala Glu Glu Val Lys Lys Leu Lys Thr

```
  1               5                  10                  15

Arg Pro Thr Asp Glu Glu Leu Lys Glu Leu Tyr Gly Phe Tyr Lys Gln
            20                  25                  30

Ala Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu Asp Leu
        35                  40                  45

Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys Lys Gly Ile Ser
    50                  55                  60

Lys Glu Asp Ala Met Asn Ala Tyr Ile Ser Lys Ala Lys Thr Met Val
65                  70                  75                  80

Glu Lys Tyr Gly Ile
                85
```

<210> 54
<211> 86
<212> PRT
<213> Homo sapiens

<400> 54

```
Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Lys Asn Leu Lys
  1               5                  10                  15

Thr Lys Pro Ala Asp Asp Glu Met Leu Phe Ile Tyr Ser His Tyr Lys
            20                  25                  30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Ile Leu Asp
        35                  40                  45

Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Gly Leu Lys Gly Thr
    50                  55                  60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu Leu
65                  70                  75                  80

Lys Lys Lys Tyr Gly Ile
                85
```

<210> 55
<211> 86
<212> PRT
<213> Homo sapiens

<400> 55

```
Ser Gln Ala Glu Phe Asp Lys Ala Ala Glu Glu Val Lys His Leu Lys
  1               5                  10                  15

Thr Lys Pro Ala Asp Glu Glu Met Leu Phe Ile Tyr Ser His Tyr Lys
            20                  25                  30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp
        35                  40                  45
```

```
Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr
     50                  55                  60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asp Lys Val Glu Glu Leu
 65                  70                  75                  80

Lys Lys Lys Tyr Gly Ile
                 85
```

<210> 56
<211> 86
<212> PRT
<213> Homo sapiens

<400> 56

```
Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His Leu Lys
  1               5                  10                  15

Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His Tyr Lys
             20                  25                  30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp
         35                  40                  45

Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr
     50                  55                  60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu Leu
 65                  70                  75                  80

Lys Lys Lys Tyr Gly Ile
                 85
```

<210> 57
<211> 88
<212> PRT
<213> Homo sapiens

<400> 57

```
Met Ser Leu Gln Ala Asp Phe Asp Met Val Thr Glu Asp Val Arg Lys
  1               5                  10                  15

Leu Lys Thr Arg Pro Asp Asp Glu Glu Leu Lys Glu Leu Tyr Gly Leu
             20                  25                  30

Tyr Lys Gln Ala Val Ile Gly Asn Ile Asn Ile Glu Cys Ser Glu Met
         35                  40                  45

Leu Glu Leu Lys Gly Lys Ala Lys Trp Glu Ala Gln Asn Pro Gln Lys
     50                  55                  60

Gly Leu Ser Glu Glu Asp Met Met Arg Ala Phe Ile Ser Lys Ala Glu
 65                  70                  75                  80
```

Glu Leu Ile Glu Lys Tyr Gly Ile
85

<210> 58
<211> 82
<212> PRT
<213> Homo sapiens

<400> 58
Lys Arg Cys Ala Gly Ile Lys His Phe Lys Thr Lys Pro Ala Asp Asp
1 5 10 15

Glu Met Arg Phe Leu Tyr Gly His Tyr Lys Arg Ala Thr Val Gly Asn
20 25 30

Ile Lys Thr Glu Arg Pro Gly Met Val Asp Phe Lys Gly Lys Ala Lys
35 40 45

Trp Asp Pro Trp Asn Leu Val Lys Gly Ala Ala Arg Glu Asp Pro Met
50 55 60

Lys Ala Lys Ala Tyr Val Lys Lys Val Glu Glu Leu Lys Lys Lys Phe
65 70 75 80

Arg Ile

<210> 59
<211> 80
<212> PRT
<213> Homo sapiens

<400> 59
Lys Ala Ala Glu Glu Val Lys His Leu Lys Thr Lys Pro Ala Asp Glu
1 5 10 15

Glu Met Leu Phe Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp
20 25 30

Ile Asn Thr Glu Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys
35 40 45

Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr Ser Lys Glu Asp Ala Met
50 55 60

Lys Ala Tyr Ile Asp Lys Val Glu Glu Leu Lys Lys Lys Tyr Gly Ile
65 70 75 80

<210> 60
<211> 91
<212> PRT

<213> Homo sapiens

<400> 60
Glu Lys Lys Lys Lys Lys Arg Cys Ala Gly Ile Lys His Phe Lys Thr
1 5 10 15

Lys Pro Ala Asp Asp Glu Met Arg Phe Leu Tyr Gly His Tyr Lys Arg
20 25 30

Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro Gly Met Val Asp Phe
35 40 45

Lys Gly Lys Ala Lys Trp Asp Pro Trp Asn Leu Val Lys Gly Ala Ala
50 55 60

Arg Glu Asp Pro Met Lys Ala Lys Ala Tyr Val Lys Lys Val Glu Glu
65 70 75 80

Leu Lys Lys Lys Phe Arg Ile Arg Glu Thr Gly
85 90

<210> 61
<211> 88
<212> PRT
<213> Homo sapiens

<400> 61
Glu Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His Leu Lys Thr
1 5 10 15

Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His Tyr Lys Gln
20 25 30

Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp Phe
35 40 45

Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr Ser
50 55 60

Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu Leu Lys
65 70 75 80

Lys Lys Tyr Gly Ile Glu Thr Gly
85

<210> 62
<211> 138
<212> PRT
<213> Homo sapiens

<400> 62
Met Ala Lys Pro Ile Ser Thr Lys Asn Thr Lys Ile Ser Arg His Gly
1 5 10 15

Trp His Ala Ala Val Ile Thr Ala Ala Arg Glu Ala Glu Ala Glu Asn

```
            20                  25                  30

His Leu Ser Trp Glu Glu Lys Lys Lys Lys Lys Arg Cys Ala Gly Ile
         35                  40                  45

Lys His Phe Lys Thr Lys Pro Ala Asp Asp Glu Met Arg Phe Leu Tyr
     50                  55                  60

Gly His Tyr Lys Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro
 65                  70                  75                  80

Gly Met Val Asp Phe Lys Gly Lys Ala Lys Trp Asp Pro Trp Asn Leu
                 85                  90                  95

Val Lys Gly Ala Ala Arg Glu Asp Pro Met Lys Ala Lys Ala Tyr Val
            100                 105                 110

Lys Lys Val Glu Glu Leu Lys Lys Lys Phe Arg Ile Arg Glu Thr Gly
        115                 120                 125

Ile Val Ala Ser His Ala Phe Val Leu Asn
    130                 135


<210> 63
<211> 86
<212> PRT
<213> Homo sapiens

<400> 63
Ser Gln Ala Glu Phe Asp Lys Ala Ala Glu Glu Val Lys His Leu Lys
  1               5                  10                  15

Thr Lys Pro Ala Asp Glu Glu Met Leu Phe Ile Tyr Ser His Tyr Lys
             20                  25                  30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp
         35                  40                  45

Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr
     50                  55                  60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asp Lys Val Glu Glu Leu
 65                  70                  75                  80

Lys Lys Lys Tyr Gly Ile
                 85


<210> 64
<211> 86
<212> PRT
<213> Homo sapiens

<400> 64
Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His Leu Lys
  1               5                  10                  15
```

```
Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His Tyr Lys
            20                  25                  30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp
        35                  40                  45

Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr
    50                  55                  60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu Leu
65                  70                  75                  80

Lys Lys Lys Tyr Gly Ile
                85
```

<210> 65
<211> 256
<212> DNA
<213> Homo sapiens

<400> 65
aggctgattt tgacagggct gcagaagatg tgaggaagct gaaagcaaga ccagatgatg 60
gagaactgaa agaactctat gggctttaca aacaagcaat agttggagac attaatattg 120
cgtgtccagg aatgctagat ttaaaaggca aagccaaatg ggaagcatgg aacctcaaaa 180
aagggttgtc gacggaagat gcgacgagtg cctatatttc taaagcaaag gagctgatag 240
aaaaatacgg aattta 256

<210> 66
<211> 256
<212> DNA
<213> Homo sapiens

<400> 66
aggcagattt tgacaaagca gcaggggatg taaagaaatt gaaaacaaaa ccaactgacg 60
atgaactgaa ggaactgtac ggactctaca agcagtccac tgttggggac ataaatatag 120
agtgtcctgg catgctagat ctgaagggca aggccaagtg ggacgcatgg aacctaaaga 180
aaggcttgtc taaggaagat gcgatgagcg cttatgtttc taaagcccat gagctgatag 240
aaaaatatgg cctgta 256

<210> 67
<211> 258
<212> DNA
<213> Homo sapiens

<400> 67
aggctgattt tgacagggct gcagaagatg tgaggaagct gaaagcaaga ccagatgatg 60
gagaactgaa agaactctat gggctttaca aacaagcaat agttggagac attaatattg 120
cgtgtccagg aatgctagat ttaaaaggca aagccaaatg ggaagcatgg aacctcaaaa 180
aagggttgtc gacggaagat gcgacgagtg cctatatttc taaagcaaag gagctgatag 240
aaaaatacgg aatttaga 258

<210> 68

<211> 259
<212> DNA
<213> Homo sapiens

<400> 68
aggctgagtt tgagaaagct gcagaggagg ttaggcacct taagaccaag ccatcggatg 60
aggagatgct gttcatctat ggccactaca aacaagcaac tgtgggcgac ataaatacag 120
aacggcccgg gatgttggac ttcacgggca aggccaagtg ggatgcctgg aatgagctga 180
aagggacttc caaggaagat gccatgaaag cttacatcaa caaagtagaa gagctaaaga 240
aaaaatacgg gatatgaga 259

<210> 69
<211> 88
<212> PRT
<213> Homo sapiens

<400> 69
Phe Phe Leu Lys Ala Asp Phe Asp Arg Ala Ala Glu Asp Val Arg Lys
1 5 10 15

Leu Lys Ala Arg Pro Asp Asp Gly Glu Leu Lys Glu Leu Tyr Gly Leu
20 25 30

Tyr Lys Gln Ala Ile Val Gly Asp Ile Asn Ile Ala Cys Pro Gly Met
35 40 45

Leu Asp Leu Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys Lys
50 55 60

Gly Leu Ser Thr Glu Asp Ala Thr Ser Ala Tyr Ile Ser Lys Ala Lys
65 70 75 80

Glu Leu Ile Glu Lys Tyr Gly Ile
85

<210> 70
<211> 89
<212> PRT
<213> Homo sapiens

<400> 70
Phe Phe Leu His Gln Ala Asp Phe Asp Glu Ala Ala Glu Glu Val Lys
1 5 10 15

Lys Leu Lys Thr Arg Pro Thr Asp Glu Glu Leu Lys Glu Leu Tyr Gly
20 25 30

Phe Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly
35 40 45

Met Leu Asp Leu Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys
50 55 60

Lys Gly Ile Ser Lys Glu Asp Ala Met Asn Ala Tyr Ile Ser Lys Ala
65 70 75 80

Lys Thr Met Val Glu Lys Tyr Gly Ile
85

<210> 71
<211> 85
<212> PRT
<213> Homo sapiens

<400> 71
Lys Ala Asp Phe Asp Arg Ala Ala Glu Asp Val Arg Lys Leu Lys Ala
1 5 10 15

Arg Pro Asp Asp Gly Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln
20 25 30

Ala Ile Val Gly Asp Ile Asn Ile Ala Cys Pro Gly Met Leu Asp Leu
35 40 45

Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys Lys Gly Leu Ser
50 55 60

Thr Glu Asp Ala Thr Ser Ala Tyr Ile Ser Lys Ala Lys Glu Leu Ile
65 70 75 80

Glu Lys Tyr Gly Ile
85

<210> 72
<211> 85
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)..(85)
<223> Wherein Xaa is any amino acid.

<400> 72
Xaa Ala Asp Phe Asp Xaa Ala Ala Xaa Asp Val Xaa Lys Leu Lys Xaa
1 5 10 15

Xaa Pro Xaa Asp Xaa Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln
20 25 30

Xaa Xaa Val Gly Asp Ile Asn Ile Xaa Cys Pro Gly Met Leu Asp Leu
35 40 45

Lys Gly Lys Ala Lys Trp Xaa Ala Trp Asn Leu Lys Lys Gly Leu Ser
50 55 60

Xaa Glu Asp Ala Xaa Ser Ala Tyr Xaa Ser Lys Ala Xaa Glu Leu Ile
65 70 75 80

Glu Lys Tyr Gly Xaa

85

<210> 73
<211> 85
<212> PRT
<213> Homo sapiens

<400> 73
Gln Ala Asp Phe Asp Lys Ala Ala Gly Asp Val Lys Lys Leu Lys Thr
1 5 10 15

Lys Pro Thr Asp Asp Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln
20 25 30

Ser Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu Asp Leu
35 40 45

Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Leu Lys Lys Gly Leu Ser
50 55 60

Lys Glu Asp Ala Met Ser Ala Tyr Val Ser Lys Ala His Glu Leu Ile
65 70 75 80

Glu Lys Tyr Gly Leu
85

<210> 74
<211> 96
<212> PRT
<213> Homo sapiens

<400> 74
Met Leu Leu Leu Phe Val Cys Leu Phe Phe Leu Lys Ala Asp Phe Asp
1 5 10 15

Arg Ala Ala Glu Asp Val Arg Lys Leu Lys Ala Arg Pro Asp Asp Gly
20 25 30

Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln Ala Ile Val Gly Asp
35 40 45

Ile Asn Ile Ala Cys Pro Gly Met Leu Asp Leu Lys Gly Lys Ala Lys
50 55 60

Trp Glu Ala Trp Asn Leu Lys Lys Gly Leu Ser Thr Glu Asp Ala Thr
65 70 75 80

Ser Ala Tyr Ile Ser Lys Ala Lys Glu Leu Ile Glu Lys Tyr Gly Ile
85 90 95

<210> 75

<211> 88
<212> PRT
<213> Homo sapiens

<400> 75
Met Ser Pro Gln Ala Asp Phe Asp Lys Ala Ala Gly Asp Val Lys Lys
1 5 10 15

Leu Lys Thr Lys Pro Thr Asp Asp Glu Leu Lys Glu Leu Tyr Gly Leu
20 25 30

Tyr Lys Gln Ser Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met
35 40 45

Leu Asp Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Leu Lys Lys
50 55 60

Gly Leu Ser Lys Glu Asp Ala Met Ser Ala Tyr Val Ser Lys Ala His
65 70 75 80

Glu Leu Ile Glu Lys Tyr Gly Leu
85

<210> 76
<211> 103
<212> PRT
<213> Homo sapiens

<400> 76
Met Phe Gln Ala His Leu Leu Arg Gly Thr Leu Thr Leu Ser Phe Phe
1 5 10 15

Leu His Gln Ala Asp Phe Asp Glu Ala Ala Glu Glu Val Lys Lys Leu
20 25 30

Lys Thr Arg Pro Thr Asp Glu Glu Leu Lys Glu Leu Tyr Gly Phe Tyr
35 40 45

Lys Gln Ala Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu
50 55 60

Asp Leu Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys Lys Gly
65 70 75 80

Ile Ser Lys Glu Asp Ala Met Asn Ala Tyr Ile Ser Lys Ala Lys Thr
85 90 95

Met Val Glu Lys Tyr Gly Ile
100

<210> 77
<211> 87
<212> PRT
<213> Homo sapiens

<400> 77
Met Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His Leu
1 5 10 15

Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His Tyr
20 25 30

Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu
35 40 45

Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly
50 55 60

Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu
65 70 75 80

Leu Lys Lys Lys Tyr Gly Ile
85

<210> 78
<211> 274
<212> DNA
<213> Homo sapiens

<400> 78
ccaccatggc actgcaggct gaattcgaca aggctgcaga agacgtgagg aagctgccaa 60
caagaccagc agataataaa gaactgaaaa aactcgatgg actttacaaa caagctataa 120
ttggagacat taatattgag tatctgggaa tgctggactt taagggcaag gccaaatgcg 180
cagcatggac cctccaaaaa aggttgtcaa aggaagatgc aacgagtgtc tctatttcta 240
aggcaaaaga gccgatagaa aaataggaca ttta 274

<210> 79
<211> 271
<212> DNA
<213> Homo sapiens

<400> 79
caaccatgtc accccaggca gattttgaca aagcagcagg ggatgtaaag aaattgaaaa 60
caaaaccaac tgacgatgaa ctgaaggaac tgtacggact ctacaagcag tccactgttg 120
gggacataaa tatagagtgt cctggcatgc tagatctgaa gggcaaggcc aagtgggacg 180
catggaacct aaagaaaggc ttgtctaagg aagatgcgat gagcgcttat gtttctaaag 240
cccatgagct gatagaaaaa tatggcctgt a 271

<210> 80
<211> 262
<212> DNA
<213> Homo sapiens

<400> 80
caggctgaat tcgacaaggc tgcagaagac gtgaggaagc tgccaacaag accagcagat 60
aataaagaac tgaaaaaact cgatggactt tacaaacaag ctataattgg agacattaat 120
attgagtatc tgggaatgct ggactttaag ggcaaggcca aatgcgcagc atggaccctc 180
caaaaaaggt tgtcaaagga agatgcaacg agtgtctcta tttctaaggc aaaagagccg 240
atagaaaaat aggacattta ga 262

<210> 81
<211> 260
<212> DNA
<213> Homo sapiens

<400> 81
caggctgagt ttgagaaagc tgcagaggag gttaggcacc ttaagaccaa gccatcggat 60
gaggagatgc tgttcatcta tggccactac aaacaagcaa ctgtgggcga cataaataca 120
gaacggcccg ggatgttgga cttcacgggc aaggccaagt gggatgcctg gaatgagctg 180
aaagggactt ccaaggaaga tgccatgaaa gcttacatca acaaagtaga agagctaaag 240
aaaaaatacg ggatatgaga 260

<210> 82
<211> 86
<212> PRT
<213> Homo sapiens

<400> 82
Met Ala Leu Gln Ala Glu Phe Asp Lys Ala Ala Glu Asp Val Arg Lys
1 5 10 15

Leu Pro Thr Arg Pro Ala Asp Asn Lys Glu Leu Lys Lys Leu Asp Gly
20 25 30

Leu Tyr Lys Gln Ala Ile Ile Gly Asp Ile Asn Ile Glu Tyr Leu Gly
35 40 45

Met Leu Asp Phe Lys Gly Lys Ala Lys Cys Ala Ala Trp Thr Leu Gln
50 55 60

Lys Arg Leu Ser Lys Glu Asp Ala Thr Ser Val Ser Ile Ser Lys Ala
65 70 75 80

Lys Glu Pro Ile Glu Lys
85

<210> 83
<211> 85
<212> PRT
<213> Homo sapiens

<400> 83
Met Ser Pro Gln Ala Asp Phe Asp Lys Ala Ala Gly Asp Val Lys Lys
1 5 10 15

Leu Lys Thr Lys Pro Thr Asp Asp Glu Leu Lys Glu Leu Tyr Gly Leu
20 25 30

Tyr Lys Gln Ser Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met
35 40 45

Leu Asp Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Leu Lys Lys
50 55 60

```
Gly Leu Ser Lys Glu Asp Ala Met Ser Ala Tyr Val Ser Lys Ala His
 65                  70                  75                  80

Glu Leu Ile Glu Lys
                 85
```

<210> 84
<211> 88
<212> PRT
<213> Homo sapiens

<400> 84

```
Met Ser Pro Gln Ala Asp Phe Asp Lys Ala Ala Gly Asp Val Lys Lys
  1               5                  10                  15

Leu Lys Thr Lys Pro Thr Asp Asp Glu Leu Lys Glu Leu Tyr Gly Leu
             20                  25                  30

Tyr Lys Gln Ser Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met
         35                  40                  45

Leu Asp Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Leu Lys Lys
     50                  55                  60

Gly Leu Ser Lys Glu Asp Ala Met Ser Ala Tyr Val Ser Lys Ala His
 65                  70                  75                  80

Glu Leu Ile Glu Lys Tyr Gly Leu
                 85
```

<210> 85
<211> 103
<212> PRT
<213> Homo sapiens

<400> 85

```
Met Phe Gln Ala His Leu Leu Arg Gly Thr Leu Thr Leu Ser Phe Phe
  1               5                  10                  15

Leu His Gln Ala Asp Phe Asp Glu Ala Ala Glu Glu Val Lys Lys Leu
             20                  25                  30

Lys Thr Arg Pro Thr Asp Glu Glu Leu Lys Glu Leu Tyr Gly Phe Tyr
         35                  40                  45

Lys Gln Ala Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu
     50                  55                  60

Asp Leu Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys Lys Gly
 65                  70                  75                  80

Ile Ser Lys Glu Asp Ala Met Asn Ala Tyr Ile Ser Lys Ala Lys Thr
                 85                  90                  95
```

Met Val Glu Lys Tyr Gly Ile
100

<210> 86
<211> 87
<212> PRT
<213> Homo sapiens

<400> 86
Met Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His Leu
1 5 10 15

Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His Tyr
20 25 30

Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu
35 40 45

Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly
50 55 60

Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu
65 70 75 80

Leu Lys Lys Lys Tyr Gly Ile
85

<210> 87
<211> 86
<212> PRT
<213> Homo sapiens

<400> 87
Met Ala Leu Gln Ala Glu Phe Asp Lys Ala Ala Glu Asp Val Arg Lys
1 5 10 15

Leu Pro Thr Arg Pro Ala Asp Asn Lys Glu Leu Lys Lys Leu Asp Gly
20 25 30

Leu Tyr Lys Gln Ala Ile Ile Gly Asp Ile Asn Ile Glu Tyr Leu Gly
35 40 45

Met Leu Asp Phe Lys Gly Lys Ala Lys Cys Ala Ala Trp Thr Leu Gln
50 55 60

Lys Arg Leu Ser Lys Glu Asp Ala Thr Ser Val Ser Ile Ser Lys Ala
65 70 75 80

Lys Glu Pro Ile Glu Lys
85

<210> 88
<211> 530
<212> PRT

<213> Homo sapiens

<400> 88

```
Met Phe Gln Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys Cys Cys
  1               5                  10                  15

Leu Ile Pro Ala Asp Arg Pro Trp Asp Arg Gly Gln His Trp Gln Leu
             20                  25                  30

Glu Met Ala Asp Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala Ala
         35                  40                  45

Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln Pro Thr
     50                  55                  60

Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala Thr Glu
 65                  70                  75                  80

Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp Pro Ile Gly Arg
                 85                  90                  95

Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys Glu Glu
            100                 105                 110

Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Ile Glu Thr Met
        115                 120                 125

Pro Met Thr Glu Lys Val Glu Glu Leu Leu Arg Val Ile Gly Pro Phe
    130                 135                 140

Tyr Glu Ile Val Glu Asp Lys Lys Ser Gly Arg Ser Ser Asp Ile Thr
145                 150                 155                 160

Ser Val Arg Leu Glu Lys Ile Ser Lys Cys Leu Glu Asp Leu Gly Asn
                165                 170                 175

Val Leu Thr Ser Thr Pro Asn Ala Lys Thr Val Asn Gly Lys Ala Glu
            180                 185                 190

Ser Ser Asp Ser Gly Ala Glu Ser Glu Glu Glu Glu Ala Gln Glu Glu
        195                 200                 205

Val Lys Gly Ala Glu His Ser Asp Asn Asp Lys Lys Met Met Lys Lys
    210                 215                 220

Ser Ala Asp His Lys Asn Leu Glu Val Ile Val Thr Asn Gly Tyr Asp
225                 230                 235                 240

Lys Asp Gly Phe Val Gln Asp Ile Gln Asn Asp Ile His Ala Ser Ser
                245                 250                 255

Ser Leu Asn Gly Arg Ser Thr Glu Glu Val Lys Pro Ile Asp Glu Asn
            260                 265                 270

Leu Gly Gln Thr Gly Lys Ser Ala Val Cys Ile His Gln Gly Ile Asn
        275                 280                 285
```

```
Asp Asp His Val Glu Asp Val Thr Gly Ile Gln His Leu Thr Ser Asp
    290                 295                 300

Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu Gln Phe Gly Gln Glu
305                 310                 315                 320

Glu Ser Leu Asp Ser Phe Thr Ser Asn Asn Gly Pro Phe Gln Tyr Tyr
                325                 330                 335

Leu Gly Gly His Ser Ser Gln Pro Met Glu Asn Ser Gly Phe Arg Glu
            340                 345                 350

Asp Ile Gln Val Pro Pro Gly Asn Gly Asn Ile Gly Asn Met Gln Val
        355                 360                 365

Val Ala Val Glu Gly Lys Gly Glu Val Lys His Gly Gly Glu Asp Gly
    370                 375                 380

Arg Asn Asn Ser Gly Ala Pro His Arg Glu Lys Arg Gly Gly Glu Thr
385                 390                 395                 400

Asp Glu Phe Ser Asn Val Arg Arg Gly Arg Gly His Arg Met Gln His
                405                 410                 415

Leu Ser Glu Gly Thr Lys Gly Arg Gln Val Gly Ser Gly Gly Asp Gly
            420                 425                 430

Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu Gln
        435                 440                 445

Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val Leu
    450                 455                 460

Gln Arg Leu Gln Lys Leu Glu Thr Leu Thr Ala Ala Lys Ser Ser Thr
465                 470                 475                 480

Ser Thr Leu Gln Thr Ala Pro Gln Pro Thr Ser Ser Gln Arg Pro Ser
                485                 490                 495

Trp Trp Pro Phe Glu Met Ser Pro Gly Val Leu Thr Phe Ala Ile Ile
            500                 505                 510

Trp Pro Phe Ile Ala Gln Trp Leu Val Tyr Leu Tyr Tyr Gln Arg Arg
        515                 520                 525

Arg Arg
    530


<210> 89
<211> 530
<212> PRT
<213> Homo sapiens

<400> 89
Met Phe Gln Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys Cys Cys
  1               5                  10                  15
```

```
Cys Leu Ile Pro Gly Asp Arg Pro Trp Asp Arg Gly Arg Arg Trp Arg
            20                  25                  30

Leu Glu Met Arg His Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala
        35                  40                  45

Ala Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln Pro
    50                  55                  60

Thr Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala Thr
65                  70                  75                  80

Glu Gly Pro Cys Lys Leu Ser Lys Pro Gly Phe Trp Asp Pro Val Gly
                85                  90                  95

Arg Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys Glu
            100                 105                 110

Glu Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Leu Glu Thr
        115                 120                 125

Met Pro Met Thr Glu Lys Val Glu Glu Leu Leu His Val Ile Gly Pro
    130                 135                 140

Phe Tyr Glu Ile Val Glu Asp Lys Lys Ser Gly Arg Ser Ser Asp Leu
145                 150                 155                 160

Thr Ser Val Arg Leu Glu Lys Ile Ser Lys Cys Leu Glu Asp Leu Gly
                165                 170                 175

Asn Val Leu Ala Ser Thr Pro Asn Ala Lys Thr Val Asn Gly Lys Ala
            180                 185                 190

Glu Ser Ser Asp Ser Gly Ala Glu Ser Glu Glu Glu Ala Ala Gln Glu
        195                 200                 205

Asp Pro Lys Arg Pro Glu Pro Arg Asp Ser Asp Lys Lys Met Met Lys
    210                 215                 220

Lys Ser Ala Asp His Lys Asn Leu Glu Ile Ile Val Thr Asn Gly Tyr
225                 230                 235                 240

Asp Lys Asp Ser Phe Val Gln Gly Val Gln Asn Ser Ile His Thr Ser
                245                 250                 255

Pro Ser Leu Asn Gly Arg Cys Thr Glu Glu Val Lys Ser Val Asp Glu
            260                 265                 270

Asn Leu Glu Gln Thr Gly Lys Thr Val Val Phe Val His Gln Asp Val
        275                 280                 285

Asn Ser Asp His Val Glu Asp Ile Ser Gly Ile Gln His Leu Thr Ser
    290                 295                 300

Asp Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu Gln Phe Gly Gln
305                 310                 315                 320
```

```
Glu Glu Ser Leu Asp Gly Phe Ile Ser Asn Asn Gly Pro Phe Ser Tyr
                325                 330                 335

Tyr Leu Gly Gly Asn Pro Ser Gln Pro Leu Glu Ser Ser Gly Phe Pro
            340                 345                 350

Glu Ala Val Gln Gly Leu Pro Gly Asn Gly Ser Pro Glu Asp Met Gln
        355                 360                 365

Gly Ala Val Val Glu Gly Lys Gly Glu Val Lys Arg Gly Gly Glu Asp
    370                 375                 380

Gly Gly Ser Asn Ser Gly Ala Pro His Arg Glu Lys Arg Ala Gly Glu
385                 390                 395                 400

Ser Glu Glu Phe Ser Asn Ile Arg Arg Gly Arg Gly His Arg Met Gln
                405                 410                 415

His Leu Ser Glu Gly Ser Lys Gly Arg Gln Val Gly Ser Gly Gly Asp
            420                 425                 430

Gly Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu
        435                 440                 445

Gln Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val
    450                 455                 460

Leu Gln Arg Leu His Lys Leu Glu Met Leu Ala Ala Ser Gln Ala Lys
465                 470                 475                 480

Ser Ser Ala Leu Gln Thr Ser Asn Gln Pro Thr Ser Pro Arg Pro Ser
                485                 490                 495

Trp Trp Pro Phe Glu Met Ser Pro Gly Ala Leu Thr Phe Ala Ile Ile
            500                 505                 510

Trp Pro Phe Ile Ala Gln Trp Leu Val His Leu Tyr Tyr Gln Arg Arg
        515                 520                 525

Arg Arg
    530


<210> 90
<211> 86
<212> PRT
<213> Homo sapiens

<400> 90
Met Ser Gln Ala Phe Glu Lys Ala Ala Lys Asp Ile Lys His Leu Glu
  1               5                  10                  15

Thr Lys Pro Ala Asp Asp Glu Arg Met Phe Ile Tyr Ser Arg Cys Lys
             20                  25                  30

Gln Ala Thr Val His Asp Leu Asn Thr Glu Trp Pro Arg Met Leu Asp
```

```
         35                  40                  45

Leu Lys Gly Lys Ala Lys Gln Asp Ala Trp Asn Glu Leu Lys Asp Thr
     50                  55                  60

Ala Lys Glu Asp Ala Val Lys Ala Asp Ile Asn Lys Val Glu Glu Arg
 65                  70                  75                  80

Asn Lys Lys Tyr Arg Ile
                 85


<210> 91
<211> 87
<212> PRT
<213> Homo sapiens

<400> 91
Met Ser Gln Ala Glu Phe Asp Lys Ala Ala Glu Glu Val Lys His Leu
  1               5                  10                  15

Lys Thr Lys Pro Ala Asp Glu Glu Met Leu Phe Ile Tyr Ser His Tyr
             20                  25                  30

Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu
         35                  40                  45

Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly
     50                  55                  60

Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asp Lys Val Glu Glu
 65                  70                  75                  80

Leu Lys Lys Lys Tyr Gly Ile
                 85


<210> 92
<211> 104
<212> PRT
<213> Homo sapiens

<400> 92
Met Trp Gly Asp Leu Trp Leu Leu Pro Pro Ala Ser Ala Asn Pro Gly
  1               5                  10                  15

Thr Gly Thr Glu Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His
             20                  25                  30

Leu Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His
         35                  40                  45

Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met
     50                  55                  60

Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys
 65                  70                  75                  80
```

```
Gly Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu
                85                  90                  95

Glu Leu Lys Lys Lys Tyr Gly Ile
            100
```

<210> 93
<211> 104
<212> PRT
<213> Homo sapiens

<400> 93

```
Met Trp Gly Asp Leu Trp Leu Leu Pro Pro Ala Ser Ala Asn Pro Gly
  1               5                  10                  15

Thr Gly Thr Glu Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His
             20                  25                  30

Leu Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His
         35                  40                  45

Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met
     50                  55                  60

Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys
 65                  70                  75                  80

Gly Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu
                85                  90                  95

Glu Leu Lys Lys Lys Tyr Gly Ile
            100
```

<210> 94
<211> 359
<212> PRT
<213> Homo sapiens

<400> 94

```
Met Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser Met Asn Gln Val Lys
  1               5                  10                  15

Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys Leu Lys Leu Tyr Ala
             20                  25                  30

Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly
         35                  40                  45

Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp Ala Trp Asn Ala Leu
     50                  55                  60

Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn Tyr Val Asp Leu Val
 65                  70                  75                  80
```

```
Ser Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser Gln Val Glu Pro Gly
                 85                  90                  95

Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu Val Val Thr Ser Glu
            100                 105                 110

Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro Lys Lys Lys Asn Ala
        115                 120                 125

Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg Ala Leu Lys Ala Ala
    130                 135                 140

Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr Gly Asn Gly Asp Tyr
145                 150                 155                 160

Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr Asp Ile Pro Pro Gly
                165                 170                 175

Gly Val Glu Glu Lys Ala Lys Asn Asn Ala Val Leu Leu Arg Glu Phe
            180                 185                 190

Val Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu Ile Ala Val Val Asn
        195                 200                 205

Gly Pro Ala Val Gly Ile Ser Val Thr Leu Leu Gly Leu Phe Asp Ala
    210                 215                 220

Val Tyr Ala Ser Asp Arg Ala Thr Phe His Thr Pro Phe Ser His Leu
225                 230                 235                 240

Gly Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr Phe Pro Lys Ile Met
                245                 250                 255

Ser Pro Ala Lys Ala Thr Glu Met Leu Ile Phe Gly Lys Lys Leu Thr
            260                 265                 270

Ala Gly Glu Ala Cys Ala Gln Gly Leu Val Thr Glu Val Phe Pro Asp
        275                 280                 285

Ser Thr Phe Gln Lys Glu Val Trp Thr Arg Leu Lys Ala Phe Ala Lys
    290                 295                 300

Leu Pro Pro Asn Ala Leu Arg Ile Ser Lys Glu Val Ile Arg Lys Arg
305                 310                 315                 320

Glu Arg Glu Lys Leu His Ala Val Asn Ala Glu Glu Cys Asn Val Leu
                325                 330                 335

Gln Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn Ala Val Val Asn Phe
            340                 345                 350

Leu Ser Arg Lys Ser Lys Leu
        355
```

<210> 95
<211> 359

<212> PRT
<213> Homo sapiens

<400> 95
Met Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser Met Asn Gln Val Lys
1 5 10 15

Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys Leu Lys Leu Tyr Ala
20 25 30

Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly
35 40 45

Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp Ala Trp Asn Ala Leu
50 55 60

Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn Tyr Val Asp Leu Val
65 70 75 80

Ser Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser Gln Val Glu Pro Gly
85 90 95

Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu Val Val Thr Ser Glu
100 105 110

Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro Lys Lys Lys Asn Ala
115 120 125

Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg Ala Leu Lys Ala Ala
130 135 140

Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr Gly Asn Gly Asp Tyr
145 150 155 160

Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr Asp Ile Pro Pro Gly
165 170 175

Gly Val Glu Glu Lys Ala Lys Asn Asn Ala Val Leu Leu Arg Glu Phe
180 185 190

Val Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu Ile Ala Val Val Asn
195 200 205

Gly Pro Ala Val Gly Ile Ser Val Thr Leu Leu Gly Leu Phe Asp Ala
210 215 220

Val Tyr Ala Ser Asp Arg Ala Thr Phe His Thr Pro Phe Ser His Leu
225 230 235 240

Gly Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr Phe Pro Lys Ile Met
245 250 255

Ser Pro Ala Lys Ala Thr Glu Met Leu Ile Phe Gly Lys Lys Leu Thr
260 265 270

Ala Gly Glu Ala Cys Ala Gln Gly Leu Val Thr Glu Val Phe Pro Asp
275 280 285

```
Ser Thr Phe Gln Lys Glu Val Trp Thr Arg Leu Lys Ala Phe Ala Lys
    290                 295                 300

Leu Pro Pro Asn Ala Leu Arg Ile Ser Lys Glu Val Ile Arg Lys Arg
305                 310                 315                 320

Glu Arg Glu Lys Leu His Ala Val Asn Ala Glu Glu Cys Asn Val Leu
                325                 330                 335

Gln Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn Ala Val Val Asn Phe
            340                 345                 350

Leu Ser Arg Lys Ser Lys Leu
        355
```

<210> 96
<211> 282
<212> PRT
<213> Homo sapiens

<400> 96

```
Met Ala Ser Ser Phe Leu Pro Ala Gly Ala Ile Thr Gly Asp Ser Gly
  1               5                  10                  15

Gly Glu Leu Ser Ser Gly Asp Asp Ser Gly Glu Val Glu Phe Pro His
             20                  25                  30

Ser Pro Glu Ile Glu Glu Thr Ser Cys Leu Ala Glu Leu Phe Glu Lys
         35                  40                  45

Ala Ala Ala His Leu Gln Gly Leu Ile Gln Val Ala Ser Arg Glu Gln
     50                  55                  60

Leu Leu Tyr Leu Tyr Ala Arg Tyr Lys Gln Val Lys Val Gly Asn Cys
 65                  70                  75                  80

Asn Thr Pro Lys Pro Ser Phe Phe Asp Phe Glu Gly Lys Gln Lys Trp
                 85                  90                  95

Glu Ala Trp Lys Ala Leu Gly Asp Ser Ser Pro Ser Gln Ala Met Gln
            100                 105                 110

Glu Tyr Ile Ala Val Val Lys Lys Leu Asp Pro Gly Trp Asn Pro Gln
        115                 120                 125

Ile Pro Glu Lys Lys Gly Lys Glu Ala Asn Thr Gly Phe Gly Gly Pro
    130                 135                 140

Val Ile Ser Ser Leu Tyr His Glu Glu Thr Ile Arg Glu Glu Asp Lys
145                 150                 155                 160

Asn Ile Phe Asp Tyr Cys Arg Glu Asn Asn Ile Asp His Ile Thr Lys
                165                 170                 175

Ala Ile Lys Ser Lys Asn Val Asp Val Asn Val Lys Asp Glu Glu Gly
```

```
            180                 185                 190

Arg Ala Leu Leu His Trp Ala Cys Asp Arg Gly His Lys Glu Leu Val
        195                 200                 205

Thr Val Leu Leu Gln His Arg Ala Asp Ile Asn Cys Gln Asp Asn Glu
    210                 215                 220

Gly Gln Thr Ala Leu His Tyr Ala Ser Ala Cys Glu Phe Leu Asp Ile
225                 230                 235                 240

Val Glu Leu Leu Leu Gln Ser Gly Ala Asp Pro Thr Leu Arg Asp Gln
                245                 250                 255

Asp Gly Cys Leu Pro Glu Glu Val Thr Gly Cys Lys Thr Val Ser Leu
            260                 265                 270

Val Leu Gln Arg His Thr Thr Gly Lys Ala
        275                 280


<210> 97
<211> 279
<212> PRT
<213> Homo sapiens

<400> 97
Met Ala Ser Ser Phe Leu Pro Ala Gly Ala Ile Thr Gly Asp Ser Gly
  1               5                  10                  15

Gly Glu Leu Ser Ser Gly Asp Asp Ser Gly Glu Val Glu Phe Pro His
             20                  25                  30

Ser Pro Glu Ile Glu Glu Thr Ser Cys Leu Ala Glu Leu Phe Glu Lys
         35                  40                  45

Ala Ala Ala His Leu Gln Gly Leu Ile Gln Val Ala Ser Arg Glu Gln
     50                  55                  60

Leu Leu Tyr Leu Tyr Ala Arg Tyr Lys Gln Val Lys Val Gly Asn Cys
 65                  70                  75                  80

Asn Thr Pro Lys Pro Ser Phe Phe Asp Phe Glu Gly Lys Gln Lys Trp
                85                  90                  95

Glu Ala Trp Lys Ala Leu Gly Asp Ser Ser Pro Ser Gln Ala Met Gln
            100                 105                 110

Glu Tyr Ile Ala Val Val Lys Lys Leu Asp Pro Gly Trp Asn Pro Gln
        115                 120                 125

Ile Pro Glu Lys Lys Arg Lys Arg Ser Lys Tyr Lys Val Trp Ala Ser
    130                 135                 140

Tyr Phe Ser Ile Ser Arg Asn His Gln Gly Arg Asp Lys Asn Ile Phe
145                 150                 155                 160
```

```
Asp Tyr Cys Arg Glu Asn Asn Ile Asp His Ile Thr Lys Ala Ile Lys
                165                 170                 175

Ser Lys Asn Val Asp Val Asn Val Lys Asp Glu Glu Gly Arg Ala Leu
            180                 185                 190

Leu His Trp Ala Cys Asp Arg Gly His Lys Glu Leu Val Thr Val Leu
        195                 200                 205

Leu Gln His Arg Ala Asp Ile Asn Cys Gln Asp Asn Glu Gly Gln Thr
    210                 215                 220

Ala Leu His Tyr Ala Ser Ala Cys Glu Phe Leu Asp Ile Val Glu Leu
225                 230                 235                 240

Leu Leu Gln Ser Gly Ala Asp Pro Thr Leu Arg Asp Gln Asp Gly Cys
                245                 250                 255

Leu Pro Glu Glu Val Thr Gly Cys Lys Thr Val Ser Leu Val Leu Gln
            260                 265                 270

Arg His Thr Thr Gly Lys Ala
        275
```

<210> 98
<211> 89
<212> PRT
<213> Homo sapiens

<400> 98

```
Thr Ala Ser Thr Thr Pro Cys Ala Lys Trp Ser Ser Ser Cys Ala Ala
  1               5                  10                  15

Leu Lys Gln Leu Lys Gly Pro Val Ser Asp Gln Glu Lys Leu Leu Val
             20                  25                  30

Tyr Gly Leu Tyr Lys Gln Ala Thr Gln Gly Asp Cys Asp Ile Pro Gly
         35                  40                  45

Pro Pro Ala Ser Asp Val Arg Ala Arg Ala Lys Trp Glu Ala Trp Ser
     50                  55                  60

Ala Asn Lys Gly Ala Ser Lys Met Asp Ala Met Arg Gly Tyr Ala Ala
 65                  70                  75                  80

Lys Val Glu Glu Leu Thr Lys Lys Glu
                85
```

<210> 99
<211> 104
<212> PRT
<213> Homo sapiens

<400> 99

```
Met Trp Gly Asp Leu Trp Leu Leu Pro Pro Ala Ser Ala Asn Pro Gly
```

```
  1               5                  10                  15

Thr Gly Thr Glu Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His
             20                  25                  30

Leu Lys Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His
         35                  40                  45

Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met
     50                  55                  60

Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys
 65                  70                  75                  80

Gly Thr Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu
                 85                  90                  95

Glu Leu Lys Lys Lys Tyr Gly Ile
            100


<210> 100
<211> 86
<212> PRT
<213> Homo sapiens

<400> 100
Met Ser Gln Ala Phe Glu Lys Ala Ala Lys Asp Ile Lys His Leu Glu
  1               5                  10                  15

Thr Lys Pro Ala Asp Asp Glu Arg Met Phe Ile Tyr Ser Arg Cys Lys
             20                  25                  30

Gln Ala Thr Val His Asp Leu Asn Thr Glu Trp Pro Arg Met Leu Asp
         35                  40                  45

Leu Lys Gly Lys Ala Lys Gln Asp Ala Trp Asn Glu Leu Lys Asp Thr
     50                  55                  60

Ala Lys Glu Asp Ala Val Lys Ala Asp Ile Asn Lys Val Glu Glu Arg
 65                  70                  75                  80

Asn Lys Lys Tyr Arg Ile
                 85


<210> 101
<211> 138
<212> PRT
<213> Homo sapiens

<400> 101
Met Ala Lys Pro Ile Ser Thr Lys Asn Thr Lys Ile Ser Arg His Gly
  1               5                  10                  15

Trp His Ala Ala Val Ile Thr Ala Ala Arg Glu Ala Glu Ala Glu Asn
             20                  25                  30
```

```
His Leu Ser Trp Glu Glu Lys Lys Lys Lys Lys Arg Cys Ala Gly Ile
         35                  40                  45

Lys His Phe Lys Thr Lys Pro Ala Asp Asp Glu Met Arg Phe Leu Tyr
     50                  55                  60

Gly His Tyr Lys Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro
 65                  70                  75                  80

Gly Met Val Asp Phe Lys Gly Lys Ala Lys Trp Asp Pro Trp Asn Leu
                 85                  90                  95

Val Lys Gly Ala Ala Arg Glu Asp Pro Met Lys Ala Lys Ala Tyr Val
            100                 105                 110

Lys Lys Val Glu Glu Leu Lys Lys Lys Phe Arg Ile Arg Glu Thr Gly
        115                 120                 125

Ile Val Ala Ser His Ala Phe Val Leu Asn
    130                 135
```

<210> 102
<211> 96
<212> PRT
<213> Homo sapiens

<400> 102

```
Met Leu Leu Leu Phe Val Cys Leu Phe Phe Leu Lys Ala Asp Phe Asp
  1               5                  10                  15

Arg Ala Ala Glu Asp Val Arg Lys Leu Lys Ala Arg Pro Asp Asp Gly
             20                  25                  30

Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys Gln Ala Ile Val Gly Asp
         35                  40                  45

Ile Asn Ile Ala Cys Pro Gly Met Leu Asp Leu Lys Gly Lys Ala Lys
     50                  55                  60

Trp Glu Ala Trp Asn Leu Lys Lys Gly Leu Ser Thr Glu Asp Ala Thr
 65                  70                  75                  80

Ser Ala Tyr Ile Ser Lys Ala Lys Glu Leu Ile Glu Lys Tyr Gly Ile
                 85                  90                  95
```

<210> 103
<211> 88
<212> PRT
<213> Homo sapiens

<400> 103

```
Met Ser Leu Gln Ala Asp Phe Asp Met Val Thr Glu Asp Val Arg Lys
  1               5                  10                  15

Leu Lys Thr Arg Pro Asp Asp Glu Glu Leu Lys Glu Leu Tyr Gly Leu
             20                  25                  30

Tyr Lys Gln Ala Val Ile Gly Asn Ile Asn Ile Glu Cys Ser Glu Met
         35                  40                  45

Leu Glu Leu Lys Gly Lys Ala Lys Trp Glu Ala Gln Asn Pro Gln Lys
     50                  55                  60

Gly Leu Ser Glu Glu Asp Met Met Arg Ala Phe Ile Ser Lys Ala Glu
 65                  70                  75                  80

Glu Leu Ile Glu Lys Tyr Gly Ile
                 85
```

<210> 104
<211> 86
<212> PRT
<213> Homo sapiens

<400> 104

```
Met Ala Leu Gln Ala Glu Phe Asp Lys Ala Ala Glu Asp Val Arg Lys
  1               5                  10                  15

Leu Pro Thr Arg Pro Ala Asp Asn Lys Glu Leu Lys Lys Leu Asp Gly
             20                  25                  30

Leu Tyr Lys Gln Ala Ile Ile Gly Asp Ile Asn Ile Glu Tyr Leu Gly
         35                  40                  45

Met Leu Asp Phe Lys Gly Lys Ala Lys Cys Ala Ala Trp Thr Leu Gln
     50                  55                  60

Lys Arg Leu Ser Lys Glu Asp Ala Thr Ser Val Ser Ile Ser Lys Ala
 65                  70                  75                  80

Lys Glu Pro Ile Glu Lys
                 85
```

<210> 105
<211> 282
<212> PRT
<213> Homo sapiens

<400> 105

```
Met Ala Ser Ser Phe Leu Pro Ala Gly Ala Ile Thr Gly Asp Ser Gly
  1               5                  10                  15

Gly Glu Leu Ser Ser Gly Asp Asp Ser Gly Glu Val Glu Phe Pro His
             20                  25                  30

Ser Pro Glu Ile Glu Glu Thr Ser Cys Leu Ala Glu Leu Phe Glu Lys
```

```
         35                  40                  45

Ala Ala Ala His Leu Gln Gly Leu Ile Gln Val Ala Ser Arg Glu Gln
     50                  55                  60

Leu Leu Tyr Leu Tyr Ala Arg Tyr Lys Gln Val Lys Val Gly Asn Cys
 65                  70                  75                  80

Asn Thr Pro Lys Pro Ser Phe Phe Asp Phe Glu Gly Lys Gln Lys Trp
                 85                  90                  95

Glu Ala Trp Lys Ala Leu Gly Asp Ser Ser Pro Ser Gln Ala Met Gln
            100                 105                 110

Glu Tyr Ile Ala Val Val Lys Lys Leu Asp Pro Gly Trp Asn Pro Gln
        115                 120                 125

Ile Pro Glu Lys Lys Gly Lys Glu Ala Asn Thr Gly Phe Gly Gly Pro
    130                 135                 140

Val Ile Ser Ser Leu Tyr His Glu Glu Thr Ile Arg Glu Glu Asp Lys
145                 150                 155                 160

Asn Ile Phe Asp Tyr Cys Arg Glu Asn Asn Ile Asp His Ile Thr Lys
                165                 170                 175

Ala Ile Lys Ser Lys Asn Val Asp Val Asn Val Lys Asp Glu Glu Gly
            180                 185                 190

Arg Ala Leu Leu His Trp Ala Cys Asp Arg Gly His Lys Glu Leu Val
        195                 200                 205

Thr Val Leu Leu Gln His Arg Ala Asp Ile Asn Cys Gln Asp Asn Glu
    210                 215                 220

Gly Gln Thr Ala Leu His Tyr Ala Ser Ala Cys Glu Phe Leu Asp Ile
225                 230                 235                 240

Val Glu Leu Leu Leu Gln Ser Gly Ala Asp Pro Thr Leu Arg Asp Gln
                245                 250                 255

Asp Gly Cys Leu Pro Glu Glu Val Thr Gly Cys Lys Thr Val Ser Leu
            260                 265                 270

Val Leu Gln Arg His Thr Thr Gly Lys Ala
        275                 280


<210> 106
<211> 359
<212> PRT
<213> Homo sapiens

<400> 106
Met Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser Met Asn Gln Val Lys
  1               5                  10                  15
```

```
Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys Leu Lys Leu Tyr Ala
             20                  25                  30

Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly
         35                  40                  45

Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp Ala Trp Asn Ala Leu
     50                  55                  60

Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn Tyr Val Asp Leu Val
 65                  70                  75                  80

Ser Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser Gln Val Glu Pro Gly
                 85                  90                  95

Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu Val Val Thr Ser Glu
            100                 105                 110

Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro Lys Lys Lys Asn Ala
        115                 120                 125

Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg Ala Leu Lys Ala Ala
    130                 135                 140

Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr Gly Asn Gly Asp Tyr
145                 150                 155                 160

Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr Asp Ile Pro Pro Gly
                165                 170                 175

Gly Val Glu Glu Lys Ala Lys Asn Asn Ala Val Leu Leu Arg Glu Phe
            180                 185                 190

Val Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu Ile Ala Val Val Asn
        195                 200                 205

Gly Pro Ala Val Gly Ile Ser Val Thr Leu Leu Gly Leu Phe Asp Ala
    210                 215                 220

Val Tyr Ala Ser Asp Arg Ala Thr Phe His Thr Pro Phe Ser His Leu
225                 230                 235                 240

Gly Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr Phe Pro Lys Ile Met
                245                 250                 255

Ser Pro Ala Lys Ala Thr Glu Met Leu Ile Phe Gly Lys Lys Leu Thr
            260                 265                 270

Ala Gly Glu Ala Cys Ala Gln Gly Leu Val Thr Glu Val Phe Pro Asp
        275                 280                 285

Ser Thr Phe Gln Lys Glu Val Trp Thr Arg Leu Lys Ala Phe Ala Lys
    290                 295                 300

Leu Pro Pro Asn Ala Leu Arg Ile Ser Lys Glu Val Ile Arg Lys Arg
305                 310                 315                 320
```

```
Glu Arg Glu Lys Leu His Ala Val Asn Ala Glu Glu Cys Asn Val Leu
                325                 330                 335

Gln Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn Ala Val Val Asn Phe
            340                 345                 350

Leu Ser Arg Lys Ser Lys Leu
        355
```

<210> 107
<211> 530
<212> PRT
<213> Homo sapiens

<400> 107

```
Met Phe Gln Phe His Ala Gly Ser Trp Glu Ser Trp Cys Cys Cys Cys
  1               5                  10                  15

Leu Ile Pro Ala Asp Arg Pro Trp Asp Arg Gly Gln His Trp Gln Leu
             20                  25                  30

Glu Met Ala Asp Thr Arg Ser Val His Glu Thr Arg Phe Glu Ala Ala
         35                  40                  45

Val Lys Val Ile Gln Ser Leu Pro Lys Asn Gly Ser Phe Gln Pro Thr
     50                  55                  60

Asn Glu Met Met Leu Lys Phe Tyr Ser Phe Tyr Lys Gln Ala Thr Glu
 65                  70                  75                  80

Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp Pro Ile Gly Arg
                 85                  90                  95

Tyr Lys Trp Asp Ala Trp Ser Ser Leu Gly Asp Met Thr Lys Glu Glu
            100                 105                 110

Ala Met Ile Ala Tyr Val Glu Glu Met Lys Lys Ile Ile Glu Thr Met
        115                 120                 125

Pro Met Thr Glu Lys Val Glu Glu Leu Leu Arg Val Ile Gly Pro Phe
    130                 135                 140

Tyr Glu Ile Val Glu Asp Lys Lys Ser Gly Arg Ser Ser Asp Ile Thr
145                 150                 155                 160

Ser Val Arg Leu Glu Lys Ile Ser Lys Cys Leu Glu Asp Leu Gly Asn
                165                 170                 175

Val Leu Thr Ser Thr Pro Asn Ala Lys Thr Val Asn Gly Lys Ala Glu
            180                 185                 190

Ser Ser Asp Ser Gly Ala Glu Ser Glu Glu Glu Glu Ala Gln Glu Glu
        195                 200                 205

Val Lys Gly Ala Glu His Ser Asp Asn Asp Lys Lys Met Met Lys Lys
    210                 215                 220
```

```
Ser Ala Asp His Lys Asn Leu Glu Val Ile Val Thr Asn Gly Tyr Asp
225                 230                 235                 240

Lys Asp Gly Phe Val Gln Asp Ile Gln Asn Asp Ile His Ala Ser Ser
                245                 250                 255

Ser Leu Asn Gly Arg Ser Thr Glu Glu Val Lys Pro Ile Asp Glu Asn
            260                 265                 270

Leu Gly Gln Thr Gly Lys Ser Ala Val Cys Ile His Gln Gly Ile Asn
        275                 280                 285

Asp Asp His Val Glu Asp Val Thr Gly Ile Gln His Leu Thr Ser Asp
    290                 295                 300

Ser Asp Ser Glu Val Tyr Cys Asp Ser Met Glu Gln Phe Gly Gln Glu
305                 310                 315                 320

Glu Ser Leu Asp Ser Phe Thr Ser Asn Asn Gly Pro Phe Gln Tyr Tyr
                325                 330                 335

Leu Gly Gly His Ser Ser Gln Pro Met Glu Asn Ser Gly Phe Arg Glu
            340                 345                 350

Asp Ile Gln Val Pro Pro Gly Asn Gly Asn Ile Gly Asn Met Gln Val
        355                 360                 365

Val Ala Val Glu Gly Lys Gly Glu Val Lys His Gly Gly Glu Asp Gly
    370                 375                 380

Arg Asn Asn Ser Gly Ala Pro His Arg Glu Lys Arg Gly Gly Glu Thr
385                 390                 395                 400

Asp Glu Phe Ser Asn Val Arg Arg Gly Arg Gly His Arg Met Gln His
                405                 410                 415

Leu Ser Glu Gly Thr Lys Gly Arg Gln Val Gly Ser Gly Gly Asp Gly
            420                 425                 430

Glu Arg Trp Gly Ser Asp Arg Gly Ser Arg Gly Ser Leu Asn Glu Gln
        435                 440                 445

Ile Ala Leu Val Leu Met Arg Leu Gln Glu Asp Met Gln Asn Val Leu
    450                 455                 460

Gln Arg Leu Gln Lys Leu Glu Thr Leu Thr Ala Ala Lys Ser Ser Thr
465                 470                 475                 480

Ser Thr Leu Gln Thr Ala Pro Gln Pro Thr Ser Ser Gln Arg Pro Ser
                485                 490                 495

Trp Trp Pro Phe Glu Met Ser Pro Gly Val Leu Thr Phe Ala Ile Ile
            500                 505                 510

Trp Pro Phe Ile Ala Gln Trp Leu Val Tyr Leu Tyr Tyr Gln Arg Arg
        515                 520                 525
```

Arg Arg
530

<210> 108
<211> 20
<212> PRT
<213> Homo sapiens

<400> 108
Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp
1 5 10 15

Phe Thr Gly Lys
20

<210> 109
<211> 20
<212> PRT
<213> Homo sapiens

<400> 109
Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro Gly Met Val Asp
1 5 10 15

Phe Lys Gly Lys
20

<210> 110
<211> 20
<212> PRT
<213> Homo sapiens

<400> 110
Gln Ala Val Ile Gly Asn Ile Asn Ile Glu Cys Ser Glu Met Leu Glu
1 5 10 15

Leu Lys Gly Lys
20

<210> 111
<211> 20
<212> PRT
<213> Homo sapiens

<400> 111
Gln Ala Ile Ile Gly Asp Ile Asn Ile Glu Tyr Leu Gly Met Leu Asp
1 5 10 15

Phe Lys Gly Lys
20

<210> 112
<211> 20
<212> PRT
<213> Homo sapiens

<400> 112
Gln Ala Ile Val Gly Asp Ile Asn Ile Ala Cys Pro Gly Met Leu Asp
1 5 10 15

Leu Lys Gly Lys
20

<210> 113
<211> 20
<212> PRT
<213> Homo sapiens

<400> 113
Gln Ala Thr Val His Asp Leu Asn Thr Glu Trp Pro Arg Met Leu Asp
1 5 10 15

Leu Lys Gly Lys
20

<210> 114
<211> 20
<212> PRT
<213> Homo sapiens

<400> 114
Gln Val Lys Val Gly Asn Cys Asn Thr Pro Lys Pro Ser Phe Phe Asp
1 5 10 15

Phe Glu Gly Lys
20

<210> 115
<211> 20
<212> PRT
<213> Homo sapiens

<400> 115
Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly Val Phe Asp
1 5 10 15

Leu Ile Asn Lys
20

<210> 116
<211> 20
<212> PRT
<213> Homo sapiens

<400> 116
Gln Ala Thr Glu Gly Pro Cys Lys Leu Ser Arg Pro Gly Phe Trp Asp
1 5 10 15

Pro Ile Gly Arg
20

<210> 117
<211> 20
<212> PRT
<213> Homo sapiens

<400> 117
Gln Ala Thr Gln Gly Asp Cys Asp Ile Pro Gly Pro Pro Ala Ser Asp
1 5 10 15

Val Arg Ala Arg
20

<210> 118
<211> 18
<212> PRT
<213> Homo sapiens

<400> 118
Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp
1 5 10 15

Phe Thr

<210> 119
<211> 18
<212> PRT
<213> Homo sapiens

<400> 119
Gln Ala Thr Val Gly Asp Val Asn Thr Asp Arg Pro Gly Leu Leu Asp
1 5 10 15

Leu Lys

<210> 120
<211> 18
<212> PRT
<213> Homo sapiens

<400> 120
Arg Ala Thr Val Gly Asn Ile Lys Thr Glu Arg Pro Gly Met Val Asp
1 5 10 15

Phe Lys

<210> 121
<211> 32
<212> PRT
<213> Bos taurus

<400> 121
Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu
1 5 10 15

Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp
20 25 30

<210> 122
<211> 32
<212> PRT
<213> Homo sapiens

<400> 122
Ile Tyr Gly His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu
1 5 10 15

Arg Pro Gly Met Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp
20 25 30

<210> 123
<211> 32
<212> PRT
<213> Drosophila melanogaster

<400> 123
Leu Tyr Ser Leu Tyr Lys Gln Ala Thr Val Gly Asp Cys Asn Thr Asp
1 5 10 15

Lys Pro Gly Phe Leu Asp Phe Lys Gly Lys Ala Lys Trp Glu Ala Trp
20 25 30

<210> 124
<211> 32
<212> PRT
<213> Gallus gallus

<400> 124

```
Val Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Val Asn Thr Asp
  1               5                  10                  15

Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp
             20                  25                  30
```

<210> 125
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic construct; chemically synthesized

<400> 125

```
Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu
  1               5                  10                  15

Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp
             20                  25                  30
```

<210> 126
<211> 32
<212> PRT
<213> Homo sapiens

<400> 126

```
Ile Tyr Gly His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu
  1               5                  10                  15

Arg Pro Gly Met Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp
             20                  25                  30
```

<210> 127
<211> 32
<212> PRT
<213> turtle

<400> 127

```
Ile Tyr Ser His Phe Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu
  1               5                  10                  15

Arg Pro Gly Phe Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp
             20                  25                  30
```

<210> 128
<211> 32
<212> PRT
<213> mallard

<400> 128
Val Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Val Asn Thr Asp
1 5 10 15

Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp
20 25 30

<210> 129
<211> 32
<212> PRT
<213> Mus musculus

<400> 129
Ile Tyr Ser His Phe Lys Gln Ala Thr Val Gly Asp Val Asn Thr Asp
1 5 10 15

Arg Pro Gly Leu Leu Asp Leu Lys Gly Lys Ala Lys Trp Asp Ser Trp
20 25 30

<210> 130
<211> 32
<212> PRT
<213> Sus scrofa

<400> 130
Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu
1 5 10 15

Arg Pro Gly Ile Leu Asp Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp
20 25 30

<210> 131
<211> 32
<212> PRT
<213> Bos taurus

<400> 131
Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu
1 5 10 15

Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp
20 25 30

<210> 132
<211> 32
<212> PRT
<213> Homo sapiens

<400> 132
Ile Tyr Gly His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu
1 5 10 15

Arg Pro Gly Met Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp
20 25 30

<210> 133
<211> 32
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: synthetic construct; chemically synthesized

<400> 133
Ile Tyr Ser His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu
1 5 10 15

Arg Pro Gly Met Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp
20 25 30

<210> 134
<211> 32
<212> PRT
<213> Homo sapiens

<400> 134
Ile Tyr Gly His Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu
1 5 10 15

Arg Pro Gly Met Leu Asp Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp
20 25 30

<210> 135
<211> 32
<212> PRT
<213> Anas platyrhynchos

<400> 135
Leu Tyr Gly Phe Tyr Lys Gln Ala Thr Val Gly Asp Ile Asn Ile Glu
1 5 10 15

Cys Pro Gly Met Leu Asp Leu Lys Gly Lys Ala Lys Trp Glu Ala Trp
20 25 30

<210> 136
<211> 32
<212> PRT
<213> turtle

<400> 136
Ile Tyr Ser His Phe Lys Gln Ala Thr Val Gly Asp Ile Asn Thr Glu
1 5 10 15

Arg Pro Gly Phe Leu Asp Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp
20 25 30

<210> 137
<211> 20
<212> PRT
<213> Homo sapiens

<400> 137
Gln Ser Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu Asp
1 5 10 15

Leu Lys Gly Lys
20

<210> 138
<211> 20
<212> PRT
<213> Homo sapiens

<400> 138
Gln Ala Ser Val Gly Asp Asn Asp Thr Ala Lys Pro Gly Leu Leu Asp
1 5 10 15

Leu Lys Gly Lys
20

<210> 139
<211> 20
<212> PRT
<213> Homo sapiens

<400> 139
Gln Ala Ser Val Gly Asp Asn Asp Thr Ala Lys Pro Gly Leu Leu Asp
1 5 10 15

Leu Lys Gly Lys
20

<210> 140
<211> 20
<212> PRT
<213> Homo sapiens

<400> 140
Gln Ala Thr Val Gly Asp Asn Asn Thr Glu Lys Pro Gly Leu Leu Asp
1 5 10 15

Leu Lys Gly Lys
20

<210> 141
<211> 20
<212> PRT
<213> Bos taurus

<400> 141
Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp
1 5 10 15

Phe Lys Gly Lys
20

<210> 142
<211> 20
<212> PRT
<213> Mus musculus

<400> 142
Gln Ala Thr Val Gly Asp Val Asn Thr Asp Arg Pro Gly Leu Leu Asp
1 5 10 15

Leu Lys Gly Lys

20

<210> 143
<211> 20
<212> PRT
<213> Rattus norvegicus

<400> 143
Gln Ala Thr Val Gly Asp Val Asn Thr Asp Arg Pro Gly Leu Leu Asp
1 5 10 15

Leu Lys Gly Lys
20

<210> 144
<211> 20
<212> PRT
<213> Sus scrofa

<400> 144
Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Ile Leu Asp
1 5 10 15

Leu Lys Gly Lys
20

<210> 145
<211> 20
<212> PRT
<213> Bos taurus

<400> 145
Gln Ala Thr Glu Gly Pro Cys Lys Leu Ser Lys Pro Gly Phe Trp Asp
1 5 10 15

Pro Val Gly Arg
20

<210> 146
<211> 20
<212> PRT
<213> Cyprinus carpio

<400> 146
Gln Ala Thr Gln Gly Pro Cys Asn Thr Pro Lys Pro Ser Met Leu Asp
1 5 10 15

Phe Val Asn Lys
20

<210> 147
<211> 20

<212> PRT
<213> Mus musculus

<400> 147
Gln Ala Thr Glu Gly Thr Cys Asn Met Pro Lys Pro Gly Met Leu Asp
1 5 10 15

Phe Val Asn Lys
20

<210> 148
<211> 20
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (2)
<223> wherein Xaa is any amino acid

<220>
<221> VARIANT
<222> (3)
<223> wherein Xaa is any amino acid

<220>
<221> VARIANT
<222> (6)
<223> wherein Xaa is any amino acid

<220>
<221> VARIANT
<222> (7)
<223> wherein Xaa is any amino acid

<220>
<221> VARIANT
<222> (10)
<223> wherein Xaa is any amino acid

<220>
<221> VARIANT
<222> (11)
<223> wherein Xaa is Arg or Lys

<220>
<221> VARIANT
<222> (13)
<223> wherein Xaa is any amino acid

<220>
<221> VARIANT
<222> (14)
<223> wherein Xaa is any amino acid

<220>

<221> VARIANT
<222> (15)
<223> wherein Xaa is any amino acid

<220>
<221> VARIANT
<222> (18)
<223> wherein Xaa is any amino acid

<400> 148
Gln Xaa Xaa Val Gly Xaa Xaa Asn Thr Xaa Xaa Pro Xaa Xaa Xaa Asp
1 5 10 15

Phe Xaa Gly Lys
20

<210> 149
<211> 89
<212> PRT
<213> Homo sapiens

<400> 149
Thr Ala Ser Thr Thr Pro Cys Ala Lys Trp Ser Ser Ser Cys Ala Ala
1 5 10 15

Leu Lys Gln Leu Lys Gly Pro Val Ser Asp Gln Glu Lys Leu Leu Val
20 25 30

Tyr Gly Leu Tyr Lys Gln Ala Thr Gln Gly Asp Cys Asp Ile Pro Gly
35 40 45

Pro Pro Ala Ser Asp Val Arg Ala Arg Ala Lys Trp Glu Ala Trp Ser
50 55 60

Ala Asn Lys Gly Ala Ser Lys Met Asp Ala Met Arg Gly Tyr Ala Ala
65 70 75 80

Lys Val Glu Glu Leu Thr Lys Lys Glu
85

<210> 150
<211> 228
<212> PRT
<213> Homo sapiens

<400> 150
Met Gly Asp Ala Gly Ala Thr Ala Ala Ala Leu Arg Pro Ala His Asn
1 5 10 15

Leu Arg Pro Ala Pro Pro Thr Ala Ser Ala Ala His Ala Gln Ser Ser
20 25 30

Arg Thr Ser Ala Pro Ser Ala Gln Arg Arg Leu Pro Ala Glu Pro Ser
35 40 45

```
His Gln Pro Ser Ala Pro Gly Thr Ala Ser Thr Thr Pro Cys Ala Lys
     50                  55                  60

Trp Ser Ser Ser Cys Ala Ala Leu Lys Gln Leu Lys Gly Pro Val Ser
 65                  70                  75                  80

Asp Gln Glu Lys Leu Leu Val Tyr Gly Leu Tyr Lys Gln Ala Thr Gln
                 85                  90                  95

Gly Asp Cys Asp Ile Pro Gly Pro Pro Ala Ser Asp Val Arg Ala Arg
            100                 105                 110

Ala Lys Trp Glu Ala Trp Ser Ala Asn Lys Gly Ala Ser Lys Met Asp
        115                 120                 125

Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu Thr Lys Lys Glu
    130                 135                 140

Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln Asp Gly Arg His
145                 150                 155                 160

Glu Gly Leu Arg Gly Gln Ser Gly Gly Ala Asp Glu Glu Gly Arg Ala
                165                 170                 175

Ser Lys Met Asp Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu
            180                 185                 190

Thr Lys Lys Glu Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln
        195                 200                 205

Asp Gly Arg His Glu Gly Leu Arg Gly Gln Ser Glu Glu Met Arg Lys
    210                 215                 220

Lys Glu Ala Gly
225
```

<210> 151
<211> 191
<212> PRT
<213> Homo sapiens

<400> 151

```
Met Gly Asp Ala Gly Ala Thr Ala Ala Ala Leu Arg Pro Ala His Asn
  1               5                  10                  15

Leu Arg Pro Ala Pro Pro Thr Ala Ser Ala Ala His Ala Ser Pro His
             20                  25                  30

Glu Arg Ala Arg Gln Ala Ser Arg Ala Phe Arg Gln Ser Pro Pro Thr
         35                  40                  45

Ser Pro Gln Leu Leu Ala Pro Gly Thr Ala Ser Thr Thr Pro Cys Ala
     50                  55                  60

Lys Trp Ser Ser Ser Cys Ala Ala Leu Lys Gln Leu Lys Gly Pro Val
 65                  70                  75                  80
```

```
Ser Asp Gln Glu Lys Leu Leu Val Tyr Gly Leu Tyr Lys Gln Ala Thr
                85                  90                  95

Gln Gly Asp Cys Asp Ile Pro Gly Pro Pro Ala Ser Asp Val Arg Ala
            100                 105                 110

Arg Ala Lys Trp Glu Ala Trp Ser Ala Lys Lys Gly Ala Ser Lys Met
        115                 120                 125

Asp Ala Met Arg Gly Tyr Ala Ala Lys Val Glu Glu Leu Thr Lys Lys
    130                 135                 140

Glu Val Gly Gly Val Glu Arg Glu Gln Arg Gly Val Gln Asp Gly Arg
145                 150                 155                 160

His Glu Gly Leu Arg Gly Gln Ser Gly Gly Ala Asp Glu Glu Gly Ser
                165                 170                 175

Gly Gly Arg Gly Ala Arg Thr Lys Gly Arg Pro Arg Trp Thr Pro
            180                 185                 190
```